

AMENDMENTS TO THE CLAIMS:

1-4. (Canceled)

5. (Currently Amended) A method of bridging ~~1394 devices~~ local nodes that are not bridge aware from one ~~1394~~ bus branch through a backbone bus to another ~~1394~~ bus branch, each ~~1394~~ bus branch having a bridge device comprising a ~~1394~~ bridge portal and a backbone portal, the bridge device having control over ~~1394 devices~~ local nodes in the branch, the method comprising the steps of:

assigning a cycle master (CM) to control the backbone bus;

assigning a backbone bus node number to other backbone nodes;

the CM requests all bridge devices to initiate a bus configuration sequence, the bridge devices performing the bus configuration sequence comprising:

resetting each ~~1394 device~~ local node;

tree-identification of ~~1394 devices~~ local nodes;

self-identification of ~~1394 devices~~ local nodes controlled by a branch root node,

the self-identification comprising a physical-identification;

collecting self-identification packets in the branch root node;

transmitting the collection of local self-identification packets to the CM;

forming a database of self-identification packets from all nodes in the network;

transmitting the database of self-identification packets to all bridge devices;

translating, in each bridge, the ~~physical-id~~ physical-identification of each remote node to a virtual local node ~~id~~ identification that is unique within the branch;

adding a phantom node to the list of virtual local node ~~ids~~ identifications; and

initiating, by each bridge, another bus configuration sequence wherein the branch root additionally transmits translated ~~self-id~~ self-identification packet corresponding to remote nodes;

whereby each local node addresses remote nodes using virtual local node ~~ids~~ identifications.

6. A method of bridging ~~1394-devices~~ local nodes that are not bridge aware from one ~~1394~~ bus branch through a backbone bus to another ~~1394~~ bus branch, each ~~1394~~ bus branch having a bridge device comprising a ~~1394~~ bridge portal and a backbone portal, the bridge device having control over ~~1394-devices~~ local nodes in the branch, the method comprising the steps of:

- (a) assigning a cycle master (CM) to control the backbone bus;
- (b) assigning a backbone bus node number to other backbone nodes;
- (c) the CM requests a first bridge device to initiate a bus configuration sequence, the bridge device performing the bus configuration sequence comprising:
 - resetting each ~~1394-device~~ local node;
 - tree-identification of ~~1394-devices~~ local nodes;
 - self-identification of ~~1394-devices~~ local nodes controlled by a branch root node, the self-identification comprising a physical-identification;
 - collecting self-identification packets in the branch root node;
 - transmitting the collection of local self-identification packets to the CM;
- (d) forming a database of self-identification packets from all nodes in the network;
- (e) accumulating and transmitting the database of self-identification packets to a second bridge device;

- (f) the CM requests the second bridge device to initiate a bus configuration sequence wherein the ~~1394~~ bridge portal becomes the branch root node; the root node causes the received database of self-identification packets to be transmitted to all local nodes in the branch causing the local nodes to begin self-identification at an address above the highest address in the received database; the local nodes transmit self-identification packets;
- (g) accumulating into the database the self-identification of the local nodes and transmitting the accumulated ~~data base~~ database to a third bridge device;
- (h) repeating steps (f) and (g) for all branches connected to the backbone network;
- (~~hi~~) the CM send an accumulated self-identification database to all branch root nodes; each branch root re-transmits ~~self-id~~ self-identification packets from branch 0 and branches with higher branch numbers;

whereby each local node address is unique and is part of a single logical bus.